

Application Serial No.: 10/039,876
Amendment dated: January 5, 2006
Response to Office Action dated: July 5, 2005

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-31 (canceled)

32. (withdrawn) An isolated polypeptide comprising a sequence of amino acid residues selected from the group consisting of:

(a) polypeptide molecules comprising an amino acid sequence as shown in SEQ ID NO:2 from amino acid number 26 (Tyr) to amino acid number 235 (Ser) of SEQ ID NO:2; and

(b) polypeptide molecules comprising an amino acid sequence as shown in SEQ ID NO:2 from amino acid residue number 1 (Met) to amino acid residue number 235 (Ser).

33. (withdrawn) An isolated polypeptide according to claim 32, wherein the polypeptide consists of a sequence of amino acid residues selected from the group consisting of:

(a) polypeptide molecules comprising an amino acid sequence as shown in SEQ ID NO:2 from amino acid number 26 (Tyr) to amino acid number 235 (Ser) of SEQ ID NO:2; and

(b) polypeptide molecules comprising an amino acid sequence as shown in SEQ ID NO:2 from amino acid residue number 1 (Met) to amino acid residue number 235 (Ser).

34. (Canceled)

35. (withdrawn) A method of producing an antibody to a polypeptide comprising:

inoculating an animal with a polypeptide selected from the group consisting of:

(a) a polypeptide consisting of 9 to 210 amino acids, wherein the polypeptide comprises a contiguous sequence of amino acids in SEQ ID NO:2 from amino acid number 26 (Tyr) to amino acid number 235 (Ser);

Application Serial No.: 10/039,876
Amendment dated: January 5, 2006
Response to Office Action dated: July 5, 2005

(b) a polypeptide consisting of the amino acid sequence of SEQ ID NO:2 from amino-acid number 26 (Tyr) to amino acid number 235 (Ser);

(c) a polypeptide consisting of the amino acid sequence of SEQ ID NO:2 from amino acid number 59 (Arg) to amino acid number 133 (Asp);

(d) a polypeptide consisting of the amino acid sequence of SEQ ID NO:2 from amino acid number 135 (Ser) to amino acid number 212 (Ala);

(e) a polypeptide consisting of the amino acid sequence of SEQ ID NO:2 from amino acid 215 (Asn) to amino acid number 231 (Pro); and

wherein the polypeptide elicits an immune response in the animal to produce the antibody; and

isolating the antibody from the animal.

36. (withdrawn) An antibody produced by the method of claim 35, which specifically binds to a polypeptide of SEQ ID NO:2.

37. (withdrawn) An antibody that specifically binds to a polypeptide of claim 32.

38. (withdrawn) A method of detecting, in a test sample, the presence of an antagonist of z219a protein activity, comprising:

transfecting a z219a-responsive cell, with a reporter gene construct that is responsive to a z219a-stimulated cellular pathway; and

producing a z219a polypeptide by the method of claim 34; and

adding the z219a polypeptide to the cell, in the presence and absence of a test sample; and

comparing levels of response to the z219a polypeptide, in the presence and absence of the test sample, by a biological or biochemical assay; and

determining from the comparison, the presence of the antagonist of z219a activity in the test sample.

39. (withdrawn) A method of detecting, in a test sample, the presence of an agonist of z219a protein activity, comprising:

transfecting a z219a-responsive cell, with a reporter gene construct that is responsive to a z219a-stimulated cellular pathway; and

adding a test sample; and

comparing levels of response in the presence and absence of the test sample, by a biological or biochemical assay; and

Application Serial No.: 10/039,876
Amendment dated: January 5, 2006
Response to Office Action dated: July 5, 2005

determining from the comparison, the presence of the agonist of z219a activity in the test sample.

40. (withdrawn) A method for detecting a chromosome 21 trisomy or partial trisomy in a patient sample, comprising:

(i) obtaining a genetic sample from a patient;

(ii) hybridizing the genetic sample with a polynucleotide comprising a nucleotide sequence selected from the group consisting of:

(a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 194 to nucleotide 823;

(b) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 119 to nucleotide 823;

(c) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:8 from nucleotide 1 to nucleotide 705;

(d) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:8 from nucleotide 76 to nucleotide 705; and

(e) polynucleotide molecules complementary to (a), (b), (c) or (d);

and,

wherein hybridization conditions comprise 0.1XSSC to 2XSSC, 0.1% SDS at 55°C-65°C, wherein the genetic sample and the polynucleotide will hybridize and hence create a hybridization product,

(iii) visualizing the hybridization product; and

(iv) comparing the hybridization product to a control reaction product,

wherein the control reaction product is produced from a control genetic sample from a control patient without chromosome 21 trisomy or partial trisomy using the method of (i)-(iv), and

wherein a difference between said hybridization product and said control reaction product is indicative of chromosome 21 trisomy or partial trisomy in the patient.

41. (New) An isolated polynucleotide that hybridizes under hybridization wash conditions of 0.1XSSC to 2XSSC, 0.1% SDS at 55°C-65°C to the polynucleotide sequence as shown in SEQ ID NO:1 from nucleotide 194 to nucleotide 823.

Application Serial No.: 10/039,876
Amendment dated: January 5, 2006
Response to Office Action dated: July 5, 2005

42. (New) The isolated polynucleotide according to claim 41, wherein the polynucleotide hybridizes to the polynucleotide sequence as shown in SEQ ID NO:1 from nucleotide 119 to nucleotide 823.

43. (New) The isolated polynucleotide according to claim 41 wherein the polynucleotide sequence consists of the polynucleotide sequence as shown in SEQ ID NO: 1 from nucleotide 194 to nucleotide 823 or the polynucleotide sequence as shown in SEQ ID NO:1 from nucleotide 119 to nucleotide 823.

44. (New) A vector comprising the polynucleotide according to claim 41.

45. (New) A polynucleotide probe comprising a portion of the polynucleotide sequence of SEQ ID NO: 1, wherein the probe hybridizes to a polynucleotide sequence that is complementary to the polynucleotide sequence of SEQ ID NO: 1.

46. (New) The polynucleotide probe according to claim 45, wherein the probe is between 20 and 100 base pairs in length.

47. (New) The polynucleotide probe according to claim 46, wherein the probe is between 60 and 80 base pairs in length.

48. (New) The polynucleotide probe according to claim 45, wherein the probe is about 300 base pairs in length.

49. (New) An oligonucleotide comprising a portion of the polynucleotide sequence of SEQ ID NO: 1, wherein the oligonucleotide can be used in a polymerase chain reaction with an oligonucleotide that is complementary to the polynucleotide sequence of SEQ ID NO: 1.

50. (New) The oligonucleotide according to claim 49, wherein the polynucleotide is between 18 and 25 base pairs in length.

51. (New) The oligonucleotide according to claim 50, wherein the polynucleotide is selected from:

Application Serial No.: 10/039,876
Amendment dated: January 5, 2006
Response to Office Action dated: July 5, 2005

- a) the oligonucleotide as shown in SEQ ID NO: 13;
- b) the oligonucleotide as shown in SEQ ID NO: 14;
- c) the oligonucleotide as shown in SEQ ID NO: 15;
- d) the oligonucleotide as shown in SEQ ID NO: 16;
- e) the oligonucleotide as shown in SEQ ID NO: 17;
- f) the oligonucleotide as shown in SEQ ID NO: 19; and
- g) the oligonucleotide as shown in SEQ ID NO: 20.

52. (New) A polynucleotide produced by a polymerase chain reaction when the oligonucleotide according to claim 49 is used in the polymerase chain reaction with the oligonucleotide that is complementary to polynucleotide sequence of SEQ ID NO: 1.

53. (New) The polynucleotide according to claim 52, wherein the polynucleotide hybridizes to the 21q22.3 region of human chromosome 21 under hybridization wash conditions of 0.1XSSC to 2XSSC, 0.1% SDS at 55°C-65°C.